2014

XO HUBS

Service Manual

SRAM LLC WARRANTY

EXTENT OF LIMITED WARRANTY
Except as otherwise set forth herein, SRAM warrants its products to be free from defects in materials or workmanship for a period of two years after original purchase. This warranty only applies to the original owner and is not transferable. Claims under this warranty must be made through the retailer where the bicycle or the SRAM component was purchased. Original proof of purchase is required. **Except as described herein, SRAM makes no other warranties, guaranties, or representations of any type (express or implied), and all warranties (including any implied warranties of reasonable care, merchantibility, or fitness for a particular purpose) are hereby disclaimed.**

LOCAL LAW
This warranty statement gives the customer specific legal rights. The customer may also have other rights which vary from state to state (USA), from province to province (Canada), and from country to country elsewhere in the world.

To the extent that this warranty statement is inconsistent with the local law, this warranty shall be deemed modified to be consistent with such law, under such local law, certain disclaimers and limitations of this warranty statement may apply to the customer. For example, some states in the United States of America, as well as some governments outside of the United States (including provinces in Canada) may:

a. Preclude the disclaimers and limitations of this warranty statement from limiting the statutory rights of the consumer (e.g. United Kingdom).

b. Otherwise restrict the ability of a manufacturer to enforce such disclaimers or limitations.

For Australian customers:
This SRAM limited warranty is provided in Australia by SRAM LLC, 1333 North Kingsbury, 4th floor, Chicago, Illinois, 60642, USA. To make a warranty claim please contact the retailer from whom you purchased this SRAM product. Alternatively, you may make a claim by contacting SRAM Australia, 6 Marco Court, Rowville 3178, Australia. For valid claims SRAM will, at its option, either repair or replace your SRAM product. Any expenses incurred in making the warranty claim are your responsibility. The benefits given by this warranty are additional to other rights and remedies that you may have under laws relating to our products. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

LIMITATIONS OF LIABILITY
To the extent allowed by local law, except for the obligations specifically set forth in this warranty statement, in no event shall SRAM or its third party suppliers be liable for direct, indirect, special, incidental, or consequential damages.

LIMITATIONS OF WARRANTY
This warranty does not apply to products that have been incorrectly installed and/or adjusted according to the respective SRAM user manual. The SRAM user manuals can be found online at sram.com, rockshox.com, avidbike.com, truvativ.com, or zipp.com.

This warranty does not apply to damage to the product caused by a crash, impact, abuse of the product, non-compliance with manufacturers specifications of usage or any other circumstances in which the product has been subjected to forces or loads beyond its design.

This warranty does not apply when the product has been modified, including, but not limited to any attempt to open or repair any electronic and electronic related components, including the motor, controller, battery packs, wiring harnesses, switches, and chargers.

This warranty does not apply when the serial number or production code has been deliberately altered, defaced or removed.

This warranty does not apply to normal wear and tear. Wear and tear parts are subject to damage as a result of normal use, failure to service according to SRAM recommendations and/or riding or installation in conditions or applications other than recommended.

Wear and tear parts are identified as:

- Dust seals
- Bushings
- Air sealing o-rings
- Glide rings
- Rubber moving parts
- Foam rings
- Rear shock mounting hardware and main seals
- Upper tubes (stanchions)
- Stripped threads/bolts (aluminium, titanium, magnesium or steel)
- Brake sleeves
- Brake pads
- Chains
- Sprockets
- Cassettes
- Shifter and brake cables (inner and outer)
- Handlebar grips
- Shifter grips
- Jockey wheels
- Disc brake rotors
- Wheel braking surfaces
- Bottomout pads
- Bearings
- Bearing races
- Pawls
- Transmission gears
- Spokes
- Free hubs
- Aero bar pads
- Corrosion
- Tools
- Motors
- Batteries

Notwithstanding anything else set forth herein, this warranty is limited to one year for all electronic and electronic related components including motors, controllers, battery packs, wiring harnesses, switches, and chargers. The battery pack and charger warranty does not include damage from power surges, use of improper charger, improper maintenance, or such other misuse.

This warranty shall not cover damages caused by the use of parts of different manufacturers.

This warranty shall not cover damages caused by the use of parts that are not compatible, suitable and/or authorised by SRAM for use with SRAM components.

This warranty shall not cover damages resulting from commercial (rental) use.

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SAFETY FIRST!

We care about YOU. Please, always wear your safety glasses and protective gloves when servicing SRAM products.
Protect yourself! Wear your safety gear!

Front Hub Service

We recommend that you have your SRAM hubs serviced by a qualified bicycle mechanic. Servicing SRAM products requires knowledge of bicycle components as well as the special parts and tools used for service.

For exploded diagram and part number information, please refer to the Spare Parts Catalog available on our web site at www.sram.com.

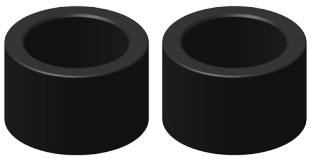
For order information, please contact your local SRAM distributor or dealer.

Information contained in this publication is subject to change at any time without prior notice. For the latest technical information, please visit our website at sram.com.

Your product's appearance may differ from the pictures/diagrams contained in this publication.

Tools Needed for Service

- Nitrile Gloves
- Apron
- Clean, lint-free rags
- SRAM Butter grease
- Bench vise
- Park Tool® AV-5 Axle and Spindle Vise Insert
- Flat head screwdriver
- Soft face mallet
- Wheels Manufacturing Press-1 Sealed Bearing Press tool
- (2) SRAM Bearing Press Tools 23327

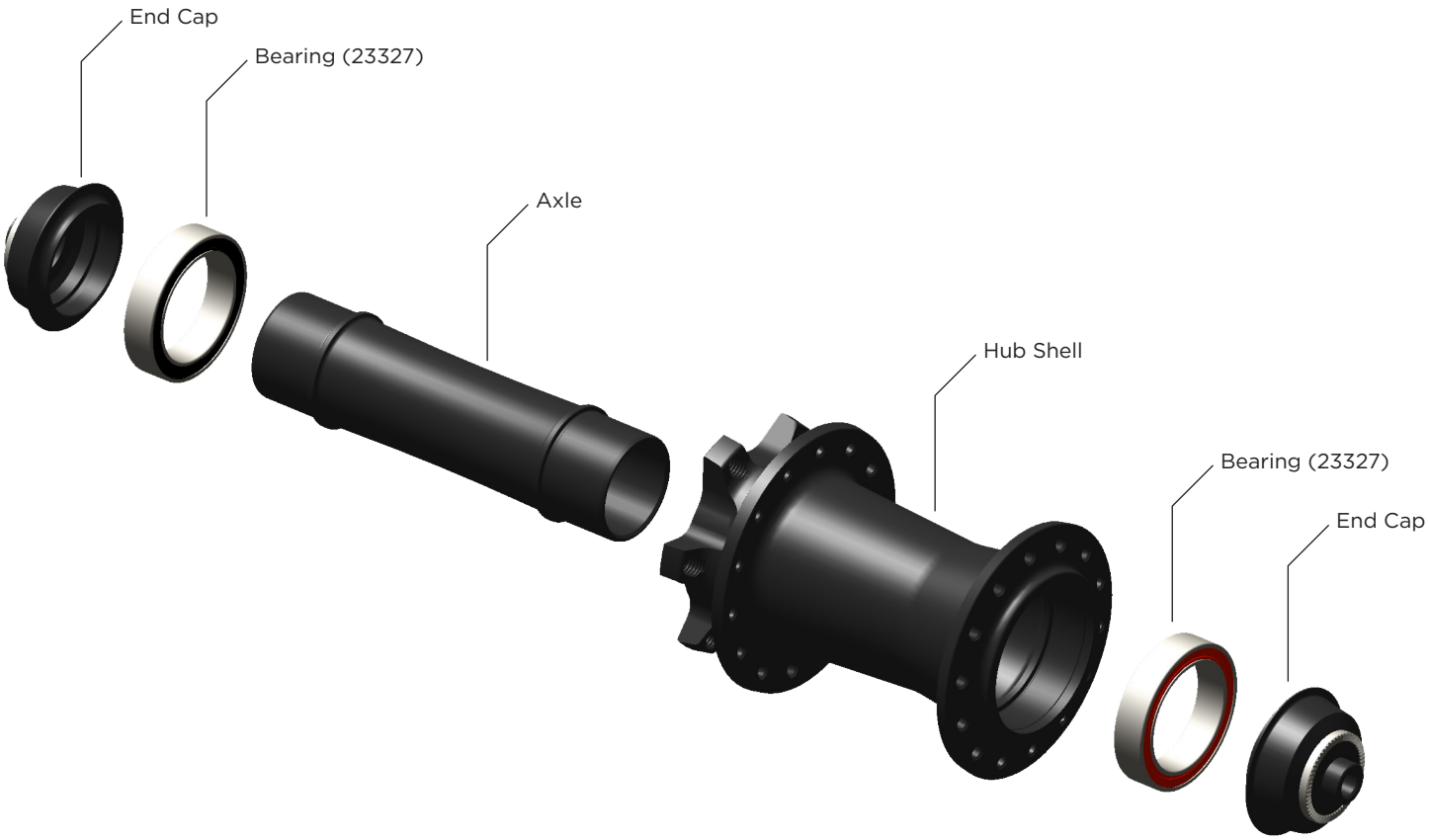


SRAM Bearing Press Tools 23327

SAFETY INSTRUCTIONS

Always wear nitrile gloves when working with bicycle grease.

Exploded View



End Cap Replacement

1 **For quick release end caps:** To remove, insert a quick release skewer into one side of the hub and use the skewer to push the opposite end cap off the hub. Repeat to remove the other end cap.

For 15 mm thru axle end caps: To remove, insert a flat head screwdriver into one side of the hub and use the flat head screwdriver to push the opposite end cap off the hub. Repeat to remove the other end cap.

For 20 mm thru axle end caps: To remove, clamp the Park Tool® AV-5 Axle and Spindle Vise tool into a vise. Clamp the flat edge of the end cap into the 36/14 slot of the AV-5 tool and pull up on the wheel. Repeat to remove the other end cap.

Quick Release

15 mm Thru Axle

AV-5 20 mm Thru Axle 36/14

2 Press the new end caps onto the hub by hand.

Front Hub Bearing Removal

1 **For quick release end caps:** To remove, insert a quick release skewer into one side of the hub and use the skewer to push the opposite end cap off the hub. Repeat to remove the other end cap.

For 15 mm thru axle end caps: To remove, insert a flat head screwdriver into one side of the hub and use the flat head screwdriver to push the opposite end cap off the hub. Repeat to remove the other end cap.

For 20 mm thru axle end caps: To remove, clamp the Park Tool® AV-5 Axle and Spindle Vise tool into a vise. Clamp the flat edge of the end cap into the 36/14 slot of the AV-5 tool and pull up on the wheel. Repeat to remove the other end cap.

Quick Release

15 mm Thru Axle

AV-5 20 mm Thru Axle 36/14

2 Use a soft face mallet to tap out the axle and bearing. Remove the bearing from the axle.

Insert the axle through the open end of the hub. Use a soft face mallet to tap the axle and remove the second bearing. Remove the bearing from the axle.

3 Use a lint-free rag to clean the bearing bores.

Front Hub Bearing Installation

NOTICE

To prevent damage when pressing the bearings into the front hub, make sure that the drift contacts both the inner and outer bearing races.

1 Apply a thin layer of SRAM Butter grease to the bearing bores on either side of the hub.

2 Install a new 23327 bearing into the non-drive side of the hub with the red seal facing outward.

3 Slide a SRAM 23327 bearing press tool onto the threaded rod of the Wheels Manufacturing Press-1 Sealed Bearing Press tool. Insert the threaded rod of the bearing press through the drive side of the hub shell. Slide the second SRAM 23327 bearing press tool onto the threaded rod.

Thread the bearing press handle onto the threaded rod.

Turn the threaded handle clockwise to press the bearing into the hub until it is hand-tight.

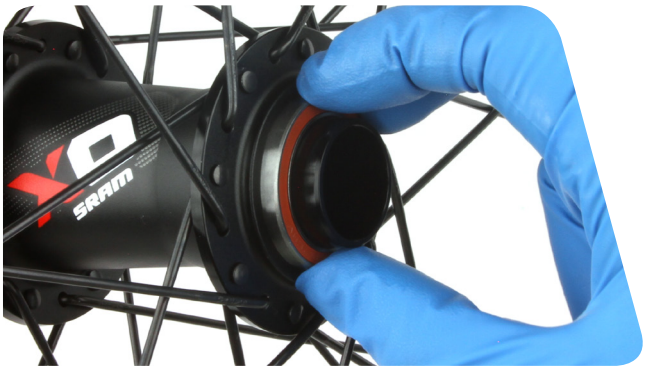
Do not overtighten the bearing.

Remove the bearing press tool.

23327 bearing press tool 23327 bearing press tool

4 Insert the axle through the drive side of the hub.

5 Install a new 23327 bearing onto the drive side end of the axle with the red seal facing outward.



6 Slide a SRAM 23327 bearing press tool onto the threaded rod of the Wheels Manufacturing Press-1 Sealed Bearing Press tool. Insert the threaded rod of the bearing press through the non-drive side of the hub shell. Slide the second SRAM 23327 bearing press tool onto the threaded rod.

Thread the bearing press handle onto the threaded rod.

Turn the threaded handle clockwise to press the bearing into the hub until it is hand-tight.

Do not overtighten the bearing.

Remove the bearing press tool.

NOTICE

Applying excessive force while installing the second bearing may result in damage to one or both bearings.

7 Press the end caps onto the axle by hand.

Rear Hub and Driver Body Service

We recommend that you have your SRAM hubs serviced by a qualified bicycle mechanic. Servicing SRAM products requires knowledge of bicycle components as well as the special parts and tools used for service.

For exploded diagram and part number information, please refer to the Spare Parts Catalog available on our web site at www.sram.com.

For order information, please contact your local SRAM distributor or dealer.

Information contained in this publication is subject to change at any time without prior notice. For the latest technical information, please visit our website at sram.com.

Your product's appearance may differ from the pictures/diagrams contained in this publication.

Tools Needed for Service

- Nitrile gloves
- Apron
- Clean, lint-free rags
- Cotton swabs
- Isopropyl alcohol
- SRAM Butter grease syringe and brush
- Bench vise
- Flat head screwdriver
- Pick or tweezers
- Park Tool® AV-5 Axle and Spindle Vise Insert
- Torque wrench
- Soft face mallet
- Wheels Manufacturing Press-1 Sealed Bearing Press tool
- 6804 adapter from Press-1 Kit
- SRAM Bearing Press Tool 6903
- SRAM Bearing Press Tools 63803
- Enduro Universal Blind Hole Bearing Puller Set
- 17 mm Blind Hole Bearing Puller slotted attachment

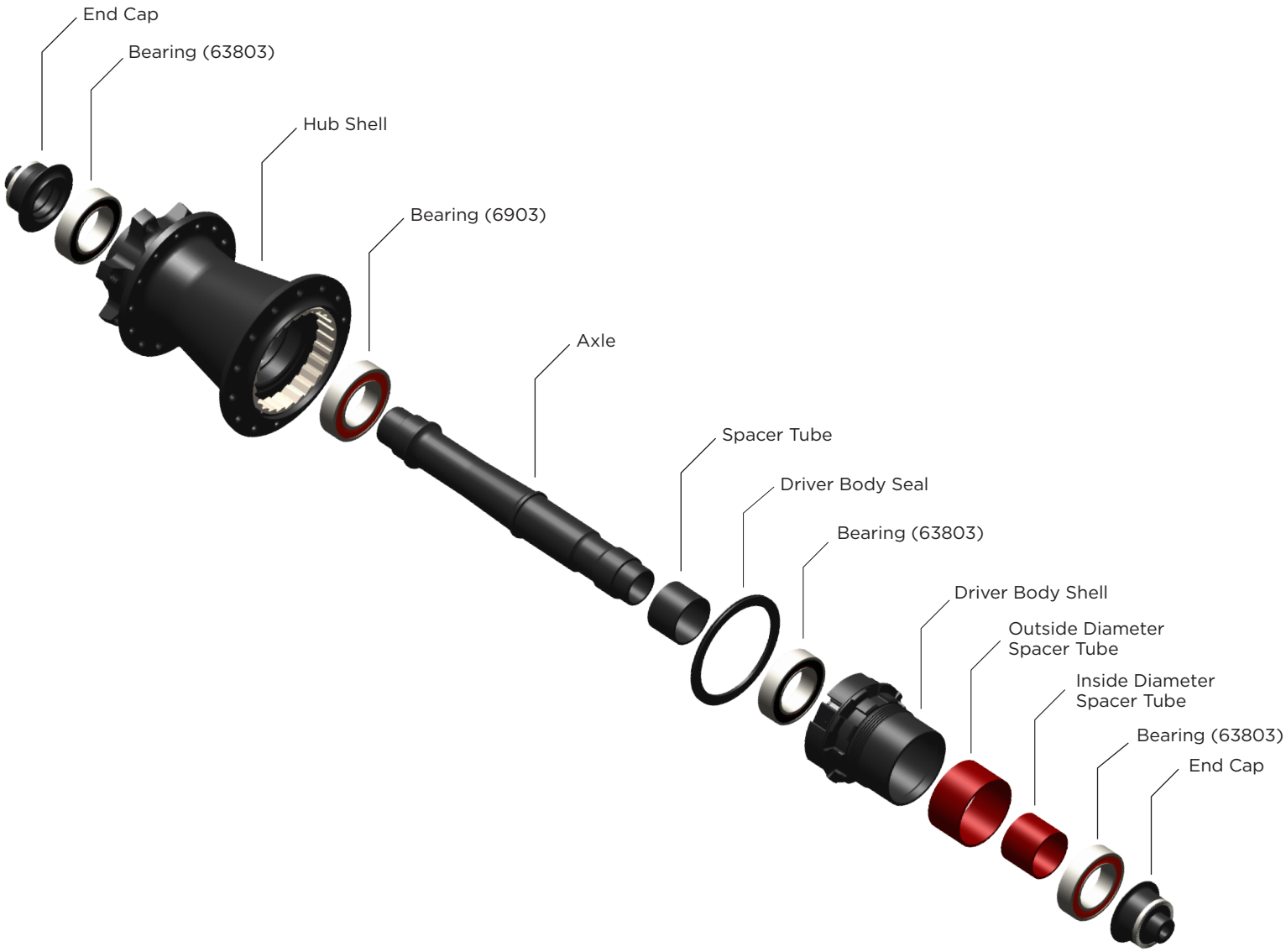
SRAM Bearing Press Tool 6903

SRAM Bearing Press Tool 63803

SAFETY INSTRUCTIONS

Always wear nitrile gloves when working with bicycle grease.

Exploded View



Rear Hub Bearing Removal

1 Pull outward on the driver body to remove the drive side end cap and driver body.

Removal is the same for both XD and 10 speed driver bodies.

2 Remove the spacer tube from the axle.

3 Clamp the non-drive side end cap into the 5 slot of the Park Tool AV-5 Axle and Spindle Vise, and pull up on the wheel to remove the non-drive side end cap.

Removal is the same for both thru axle and quick release end caps.

4 Use a soft face mallet to tap the axle through the drive side of the hub and remove the non-drive side bearing.

5 Insert the non-drive side of the axle through the non-drive side of the hub.

Use a soft face mallet to tap the axle through the non-drive side of the hub and remove the drive side bearing.

6 Use a lint-free rag and cotton swabs to clean the ratchet ring and hub internals.

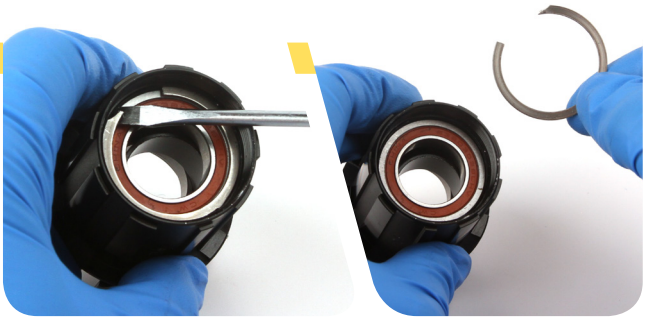
Set the rear hub aside until the driver body service is complete.

Driver Body Bearing Removal

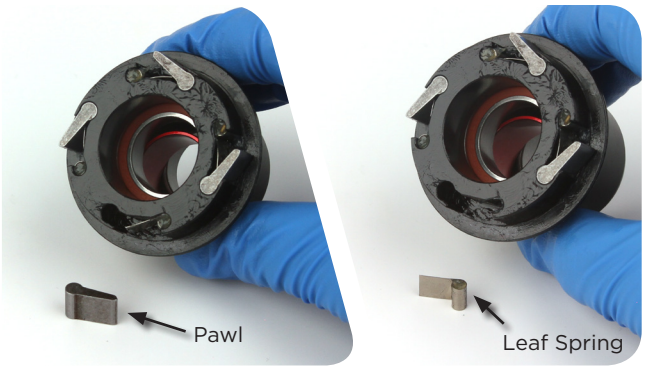
1 **10-Speed Driver Body Only:** Use a small flat head screwdriver to lift up the notched edge of the circlip, and remove the circlip from the driver body.

CAUTION - EYE HAZARD

The circlip has sharp edges and can cause eye injury if it rapidly ejects from the driver body. Wear safety glasses.



2 Use a pick or tweezers to remove the pawls and leaf springs from the driver body.



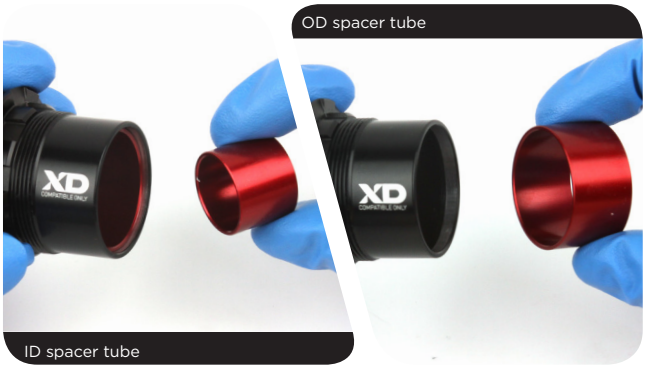
3 Use your fingers to remove the driver body seal from the driver body.

4 Insert the 17 mm Blind Hole Bearing Puller slotted attachment through the outboard bearing. Align the slotted attachment with the bottom of the bearing, and expand it inside the bearing.

Do not over tighten the slotted attachment. For more detailed assembly and usage, see your bearing puller's manufacturer's instructions.

Thread the rod of the bearing puller into the attachment. Grip the slide hammer and forcefully pull away from the slotted attachment to remove the bearing from the driver body.

5 Use your fingers to remove the ID (inside diameter) spacer tube and the OD (outside diameter) spacer tube.



6 Insert the non-drive side end of the axle through the non-drive side of the driver body. Use a soft head mallet to tap the axle and the inboard bearing through the inboard and outboard bearing bores to remove the bearing.

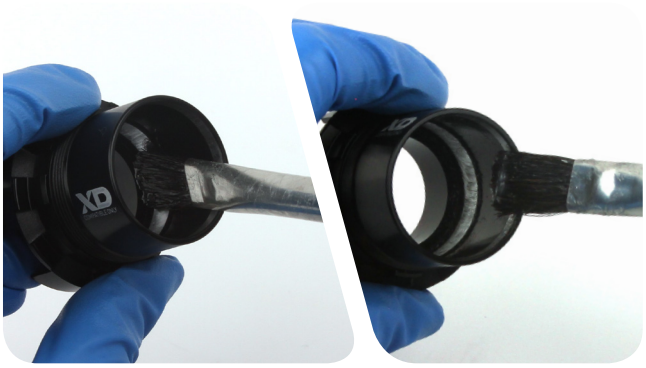
7 Use a lint-free rag and cotton swabs to clean the driver body and pawl pockets.

Driver Body Bearing Installation

NOTICE

To prevent damage when pressing the bearings into the driver body hub, make sure that the drift contacts both the inner and outer bearing races.

1 Apply a thin layer of SRAM butter grease to the bearing bores.



2 Install a new 63803 bearing into the drive side of the driver body with the **black** seal facing outward.

3 Slide a Wheels Manufacturing 6804 adapter onto the threaded rod of the Wheels Manufacturing Press-1 Sealed Bearing Press tool. Insert the threaded rod of the bearing press through the non-drive side of the driver body. Slide the SRAM 63803 bearing press tool onto the threaded rod.

Thread the bearing press handle onto the threaded rod.

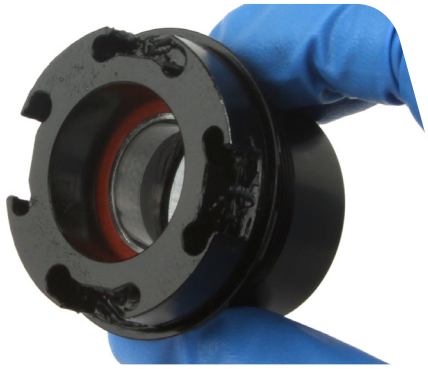
Turn the threaded handle clockwise to press the bearing past the outboard bearing bore and into the inboard bearing bore until it is hand-tight.

Do not overtighten the bearing.

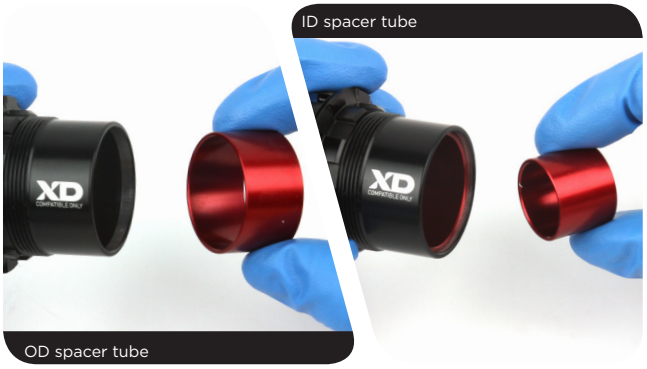
Remove the bearing press tool.

NOTICE

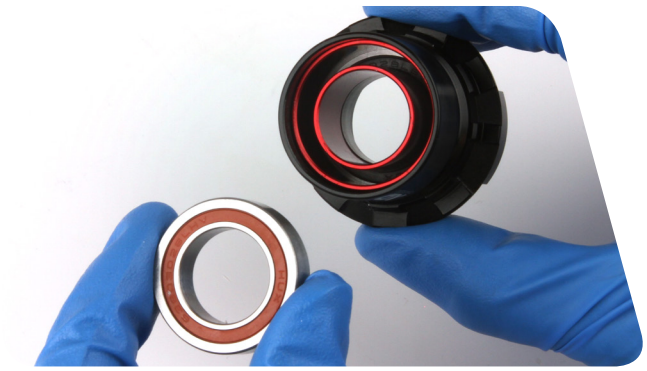
The bearing must be pushed through the outboard bearing bore and seated into the inboard bearing bore.



4 Insert the OD spacer tube followed by the ID spacer tube into the driver body through the drive side.



5 Align the ID spacer tube with the inside race of the previously installed bearing. Install a new 63803 bearing into the drive side of the driver body with the red seal facing outward.



6 Slide a Wheels Manufacturing 6804 bearing press tool onto the threaded rod of the Wheels Manufacturing Press-1 Sealed Bearing Press tool. While holding the driver body vertically, insert the threaded rod of the bearing press through the non-drive side of the driver body. Slide the SRAM 63803 bearing press tool onto the threaded rod.

Thread the bearing press handle onto the threaded rod.

Turn the threaded handle clockwise to press the bearing into the outboard bearing bore until it is hand-tight.

Do not overtighten the bearing.

Remove the bearing press tool.

NOTICE

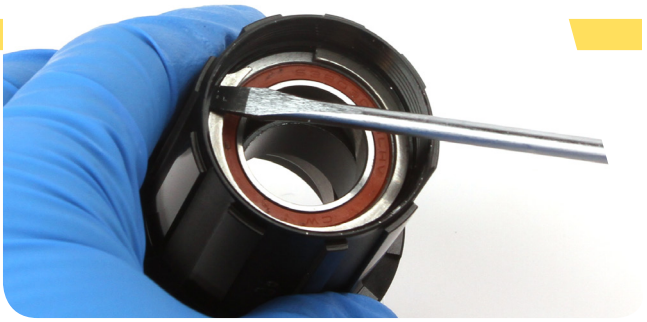
The ID spacer tube can be crushed during bearing installation if it is not aligned with the inside race of each bearing. Hold the driver body vertically and press the bearing into the driver body to prevent the ID spacer tube from shifting side-to-side.

Applying excessive force while installing the second bearing may result in damage to one or both bearings.

7 **10-Speed Driver Body Only:** Use a small flat head screwdriver to seat the circlip into the groove just above the drive side bearing.

CAUTION - EYE HAZARD

The circlip has sharp edges and can cause eye injury if it springs from the driver body. Wear safety glasses.

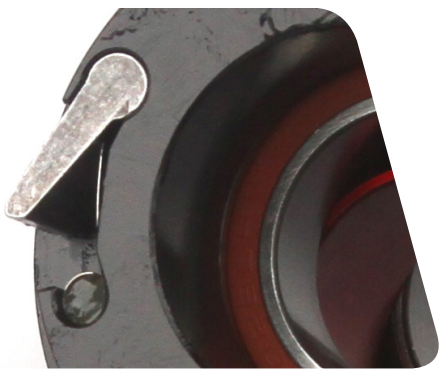


8 Use your fingers to press the driver body seal, with the groove facing up, over the leaf spring and pawl carrier.

9 Using a grease syringe, apply a small amount of SRAM Butter grease to the pawl pockets.

10 Insert the leaf springs into the spring slots. Orient the long edge of each spring along the inside of the carrier so that it points clockwise.

11 Insert the pawls into the pawl slots. You may need to use a pick or flat head screwdriver to compress each leaf spring to assist with inserting the pawls. Orient the cambered edge (the edge that is slightly more curved) of each pawl along the outside of the carrier so that it points counter-clockwise.



Rear Hub Bearing Installation

NOTICE

To prevent damage when pressing the bearings into the rear hub, make sure that the drift contacts both the inner and outer races of the bearing.

1 Apply a thin layer of SRAM Butter grease to the bearing bores on either side of the hub.

2 Install a new 6903 bearing into the drive side of the hub with the red seal facing outward.

3 Slide a SRAM 63803 bearing press tool onto the threaded rod of the Wheels Manufacturing Press-1 Sealed Bearing Press tool. Insert the threaded rod of the bearing press through the non-drive side of the hub shell. Slide the SRAM 6903 bearing press tool onto the threaded rod.

Thread the bearing press handle onto the threaded rod.

Turn the threaded handle clockwise to press the bearing into the hub until it is hand-tight.

Do not overtighten the bearing.

Remove the bearing press tool.

63803 bearing press tool 6903 bearing press tool

4 Insert the drive side of the axle through the non-drive side of the hub.

5 Install a new 63803 bearing over the axle and into the non-drive side of the hub with the red seal facing outward.

6 Slide a SRAM 6903 bearing press tool onto the threaded rod of the Wheels Manufacturing Press-1 Sealed Bearing Press tool. Insert the threaded rod of the bearing press through the drive side of the hub shell. Slide the second SRAM 63803 bearing press tool onto the threaded rod.

Thread the bearing press handle onto the threaded rod.

Turn the threaded handle clockwise to press the bearing into the hub until it is hand-tight.

Do not overtighten the bearing.

Remove the bearing press tool.

63803 bearing press tool 6903 bearing press tool

NOTICE

Applying excessive force while installing the second bearing may result in damage to one or both bearings.

7 Use the SRAM Butter grease syringe to dispense 1 gram of grease onto the ratchet ring.

8 Use your fingers to install the spacer tube onto the axle.

9 Install the driver body onto the axle and twist it counter-clockwise to seat the driver body and driver body seal.

Make sure the driver body seal is fully seated into the seal groove.

10 Make sure both axle ends are dry and free of grease.

Press the end cap labeled XD onto the drive side axle end.

Press the remaining end cap onto the non-drive side axle end.

Installation is the same for both thru axle and quick release end caps

NOTICE

The XD end cap must be installed onto the XD driver body.

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